

AMENDMENTS

In the Claims:

Please cancel claims 1-14 and 18-21 without prejudice or disclaimer to future prosecution.

Please rewrite claim 15 as follows:

15. (Amended) An X-ray apparatus comprising:

an essentially planar member of a material non-transparent to X-rays, having an elongated slot formed therein,

an array of detectors provided in communication with said slots and arranged to detect X-rays and for providing a signal representing the intensity of said X-rays imaging thereon,

means for moving a beam directing member and an object to be examined relative each other,

wherein said array of detectors comprises substantially in parallel arranged detector arrangements consisting of one or several carrying members, each arranged on at least one face with detectors comprising a plurality of sensors provided on a substrate, and wherein said detectors are arranged substantially edge to edge and side by side at least one side of said carrying member,

arranging a first part of collimators before start of the scanning in a field of view while the second part of the collimators are outside the field of view,

starting the scan from a first position and said collimators and detectors having a first speed,

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bringing the said collimators and detectors to a maximum, substantially constant speed when all collimators and detectors are in the field of view, and

when the first collimator is outside the field of view, bringing the said collimators and detectors to a third speed.

Following, please find a MARKED UP VERSION OF CLAIM 15, showing all changes made relative to the previous version of that claim –

15. (Amended) An X-ray apparatus comprising:

an essentially planar member of a material non-transparent to X-rays, having an elongated slot formed therein,

an array of detectors provided in communication with said slots and arranged to detect X-rays and for providing a signal representing the intensity of said X-rays imaging thereon,

means for moving a beam directing member and an object to be examined relative each other,

wherein said array of detectors comprises substantially in parallel arranged detector arrangements consisting of one or several carrying members, each arranged on at least one face with detectors comprising a plurality of sensors provided on a substrate, and wherein said detectors are arranged substantially edge to edge and side by side at least one side of said carrying member,

[A method for scanning in an apparatus according to claim 7, comprising the steps of:]

arranging a first part of collimators before start of the scanning in a field of view while the second part of the collimators are outside the field of view,

starting the scan from a first position and said collimators and detectors having a first speed,

bringing the said collimators and detectors to a maximum, substantially constant speed when all collimators and detectors are in the field of view, and

when the first collimator is outside the field of view, bringing the said collimators and detectors to a third speed.

Please add the following new claims -

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1 22. An arrangement for detecting X-ray radiation comprising:
a carrying member having detectors on a side thereof, said detectors including a plurality of sensors provided on a substrate;
said detectors being arranged substantially edge-to-edge and side-by-side in at least one row on said side of said carrying member; and
said detectors comprising a sensor plane, said sensor plane being substantially parallel to a surface of said carrying member and said carrying member being arranged so that said sensor plane is angularly oriented otherwise than perpendicular to incident X-ray beams.

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223. The arrangement according to claim 22 wherein at least two detectors are arranged in at least two levels, said levels being displaced relative one to the others and such that an inactive section of at least one detector is overlapped with an active section of another detector.

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24. The arrangement according to claim 22 wherein said sensor plane is arranged in parallel to incident X-ray beams.

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25. The arrangement according to claim 22 wherein said carrying member is tiltable for arranging said sensor plane at said angle.

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26. The arrangement according to claim 22 wherein said detectors are arranged on a supporting member.

6 27. The arrangement according to claim ¹22 wherein said detectors further comprise one of: a scintillator optically connected to a CCD, a silicon diode, a gaseous detector, and a parallel plate chamber in which the gas volume is oriented edge-on to the incident X-rays.

7 28. An X-ray apparatus comprising:

- an essentially planar member of a material that is non-transparent to X-rays, said essentially planar member having an elongate slot formed therein;
- a detector array provided in communication with said slots and arranged to detect X-rays and to provide a signal representing the intensity of said X-rays imaging thereon;
- a moving arrangement configured to move a beam directing member relative to an object to be X-ray examined;
- said detector array further comprising individual detectors positioned substantially in parallel with at least one carrying member;
- each detector arranged on a face of a carrying member and comprising a plurality of sensors provided on a substrate, said detectors being arranged substantially edge-to-edge and side-by-side on said face of said carrying member; and
- each detector comprising a sensor plane, said sensor plane being substantially parallel to a surface of said carrying member and said carrying member being arranged so that said sensor plane is angularly oriented otherwise than perpendicular to incident X-ray beams.

8 29. The apparatus according to claim ⁷28 wherein at least two detectors are arranged in at least two levels, said levels being displaced relative one to the others and such that an inactive section of at least one detector is overlapped with an active section of another detector.

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9 ~~30~~⁷ The apparatus according to claim ~~28~~⁷ wherein each of said detectors has a sensor plane, said sensor plane being arranged at an angle other than perpendicular to incident X-ray beams.

10 ~~31~~⁷ The apparatus according to claim ~~28~~⁷ wherein each of said detectors has a sensor plane, said sensor plane being arranged in parallel with incident X-ray beams.

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11 ~~32~~⁷ The apparatus according to claim ~~28~~⁷ wherein said beam directing member includes slots arranged in at least two rows, and said slots in each row are displaced relative each other.

12 ~~33~~⁷ The apparatus according to claim ~~28~~⁷ wherein said beam directing member is one of a refracting and focusing member.

13 ~~34~~⁷ The apparatus according to claim ~~28~~⁷ further comprising:
means for acquiring data from said detector arrays at intervals corresponding to a fraction of a width of said detector arrays.

14 ~~35~~¹³ The apparatus according to claim ~~34~~¹³ wherein said sensors of said detector arrays are made of silicon wafers oriented substantially edge-on to incident X-rays.

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38. A method for X-ray scanning comprising the steps of:

providing an X-ray apparatus having:

an essentially planar member of a material that is non-transparent to X-rays,
said essentially planar member having an elongate slot formed therein;

a detector array provided in communication with said slots and arranged to
detect X-rays and to provide a signal representing the intensity of said X-rays
imaging thereon;

a moving arrangement configured to move a beam directing member relative
to an object to be X-ray examined;

said detector array further comprising individual detectors positioned
substantially in parallel with at least one carrying member;

each detector arranged on a face of a carrying member and comprising a
plurality of sensors provided on a substrate, said detectors being arranged
substantially edge-to-edge and side-by-side on said face of said carrying member;
and

each detector comprising a sensor plane, said sensor plane being substantially
parallel to a surface of said carrying member and said carrying member being
arranged so that said sensor plane is angularly oriented otherwise than perpendicular
to incident X-ray beams;

starting a scan;

positioning said slots and corresponding detectors substantially outside a field of view when
the scan starts;

passing substantially all slots and corresponding detectors over an object to be X-rayed and
thus establishing said field of view;

measuring scan X-ray fluxes together with position coordinates for all detectors; and

terminating the scan only after all slots and corresponding detectors are substantially outside
the field of view.

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19 37. The method according to claim ~~36~~¹⁸, further comprising:
incrementing the scanning at least a distance corresponding to a fraction of a distance
of the detectors arrangements.

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20 38. The method according to claim ~~37~~¹⁹ wherein the scan is continuous and a readout of
data is performed at intervals corresponding to a fraction of a distance between the detector
arrangements.

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21 39. The method as claimed in claim ~~37~~²⁰ wherein readout data for each increment and for
each sensor array is stored as data arrays, and wherein said stored data for each sensor array is
separately combined to form an image, and wherein images obtained by each sensor array are
superposed to form a final image.